

AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A process for producing a catalyst for gas-phase oxidations, which comprises

weighing a particulate inert support having a total mass of M_{support} into a fluidized-bed apparatus,

providing an aqueous suspension of a catalytically active material or sources thereof and a binder having a binder content of B_{susp} ,

fluidizing the inert support by introduction of a gas stream heated to a temperature of T_{gas} at a flow rate of Q_{gas} , and

spraying the suspension at a rate of Q_{susp} onto the fluidized inert support,

~~wherein Q_{gas} , Q_{susp} , B_{susp} , M_{support} and T_{gas} are selected within the ranges~~

~~$$3000 \leq Q_{\text{gas}} [\text{m}^3/\text{h}] \leq 9000, \quad 1000 \leq Q_{\text{susp}} [\text{g}/\text{min}] \leq 3500,$$

$$2 \leq B_{\text{susp}} [\% \text{ by weight}] \leq 18, \quad 60 \leq M_{\text{support}} [\text{kg}] \leq 240,$$

$$75 \leq T_{\text{gas}} [^{\circ}\text{C}] \leq 120$$~~

wherein:

Q_{gas} is from 3,000 m^3/h to 9,000 m^3/h ,

Q_{susp} is from 1,000 g/min to 3,500 g/min ,

B_{susp} is from 2% by weight to 18% by weight of the total suspension,

M_{support} is from 60 kg to 240 kg, and

T_{gas} is from 75° C to 120° C

so that a parameter K defined as

$$K = 0.020 Q_{\text{gas}} - 0.055 Q_{\text{susp}} + 7.500 B_{\text{susp}} - 0.667 M_{\text{support}} + 2.069 T_{\text{gas}} - 7$$

satisfies the relationship $127.5 \leq K \leq 202$.

Claim 2 (currently amended): The process according to claim 1, wherein the parameter K is in a range $136.0 \leq K \leq 193.5$ and

$$\begin{aligned} &4500 \leq Q_{\text{gas}} [\text{m}^3/\text{h}] \leq 7500, \quad \text{---} \quad 1500 \leq Q_{\text{susp}} [\text{g}/\text{min}] \leq 3000, \\ &\text{---} \quad 5 \leq B_{\text{susp}} [\% \text{ by weight}] \leq 15, \quad \text{---} \quad 100 \leq M_{\text{support}} [\text{kg}] \leq 200, \\ &\text{---} \quad 80 \leq T_{\text{gas}} [^{\circ}\text{C}] \leq 115. \end{aligned}$$

Q_{gas} is from 4,500 m³/h to 7,500 m³/h,

Q_{susp} is from 1,500 g/min to 3,000 g/min,

B_{susp} is from 5% by weight to 15% by weight of the total suspension,

M_{support} is from 100 kg to 200 kg, and

T_{gas} is from 80° C to 115° C.

Claim 3 (currently amended): The process according to claim 2, wherein the parameter K is in a range $143 \leq K \leq 184.5$ and

$$\begin{aligned} &5500 \leq Q_{\text{gas}} [\text{m}^3/\text{h}] \leq 6500, \quad \text{---} \quad 2000 \leq Q_{\text{susp}} [\text{g}/\text{min}] \leq 2500, \\ &\text{---} \quad 6 \leq B_{\text{susp}} [\% \text{ by weight}] \leq 11, \quad \text{---} \quad 120 \leq M_{\text{support}} [\text{kg}] \leq 180, \\ &\text{---} \quad 90 \leq T_{\text{gas}} [^{\circ}\text{C}] \leq 115. \end{aligned}$$

Q_{gas} is from 5,500 m³/h to 6,500 m³/h,

Q_{susp} is from 2,000 g/min to 2,500 g/min,

B_{susp} is from 6% by weight to 11% by weight of the total suspension,

M_{support} is from 120 kg to 180 kg, and

T_{gas} is from 90° C to 115° C.

Claim 4 (currently amended): The process according to claim 1 ~~any of claims 1 to 3~~, wherein the gas which is introduced is air.

Claim 5 (currently amended): The process according to claim 1 ~~any of claims 1 to 4~~, wherein a second aqueous suspension of catalytically active material and binder is provided and is sprayed onto the fluidized support which has been coated with the first suspension.

Claim 6 (original): The process according to claim 5, wherein the support which has been coated with the first suspension is dried before the second suspension is sprayed onto it.

Claim 7 (currently amended): The process according to claim 1 ~~any of claims 1 to 6~~, wherein the particulate inert support is provided in the form of spheres, cylinders, rings or columns; ~~preferably with dimensions of from 5 to 15 mm.~~

Claim 8 (currently amended): The process according to claim 1 ~~any of claims 1 to 7~~, wherein the fluidized-bed apparatus is a container for accommodating the particulate support in whose lower region a dish-like depression is provided and which comprises a central tube for introducing the gas which extends essentially axially downward in the container and opens into the depression, an essentially annular deflection shield which is fixed to the central tube in the upper region of the container and a guide ring which is located in the lower region of the container and surrounds the central tube essentially concentrically over part of its length and means for spraying-in the first and, if applicable, second suspension.

Claim 9 (original): The process according to claim 8, wherein the first or second suspension comprises TiO_2 and V_2O_5 particles, where at least 90% by volume of the V_2O_5 particles have a diameter of 20 μm or less and at least 95% by volume of the V_2O_5 particles have a diameter of 30 μm or less.

Claim 10 (currently amended): The process according to claim 1 ~~any of claims 1 to 7~~, wherein V_2O_5 particles or dissolved vanadium is used for the first or second suspension.

Claim 11 (currently amended): The use of the catalyst prepared according to claim 1 ~~any of claims 1 to 10~~ for preparing phthalic anhydride from o-xylene, naphthalane, or mixtures thereof.

Claim 12 (new): The process according to claim 2, wherein the gas which is introduced is air.

Claim 13 (new): The process according to claim 3, wherein the gas which is introduced is air.

Claim 14 (new): The process according to claim 2, wherein a second aqueous suspension of catalytically active material and binder is provided and is sprayed onto the fluidized support which has been coated with the first suspension.

Claim 15 (new): The process according to claim 3, wherein a second aqueous suspension of catalytically active material and binder is provided and is sprayed onto the fluidized support which has been coated with the first suspension.

Claim 16 (new): The process according to claim 4, wherein a second aqueous suspension of catalytically active material and binder is provided and is sprayed onto the fluidized support which has been coated with the first suspension.

Claim 17 (new): The process according to claim 1, wherein the particulate inert support is provided in the form of spheres, cylinders, rings or columns, with dimensions of from 5 to 15 mm.

Claim 18 (new): The process according to claim 2, wherein the particulate inert support is provided in the form of spheres, cylinders, rings or columns.

Claim 19 (new): The process according to claim 2, wherein the particulate inert support is provided in the form of spheres, cylinders, rings or columns, with dimensions of from 5 to 15 mm.

Claim 20 (new): The process according to claim 3, wherein the particulate inert support is provided in the form of spheres, cylinders, rings or columns.